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10/806,600	03/23/2004	Wolfgang Bohnisch	460868.00022	2459

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EXAMINER	
WASHBURN, DANIEL C	

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/806,600	BOHNISCH ET AL.	
	Examiner	Art Unit	
	Dan Washburn	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2-4, 6, 8,10-16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marmaropoulos (US 2003/0202003) in view of Minyard et al. (US 6,891,920).

Concerning claim 1, Marmaropoulos describes a device for audiovisual presentation of sound and images, particularly for advertising purposes, with a memory unit and a monitor to display image information from the memory unit, the device comprising an actuator unit to move the monitor; and a control unit controlling the actuator unit depending upon the image information displayed on the monitor to control movement of the monitor. For example, Marmaropoulos includes a display device that automatically rotates 180° and displays information on its screen when a potential customer is within a designated range. The display device progresses through a 'waking up' sequence that involves sound effects, such as a product jingle, and the visual effect of the screen rotating to reveal information about an advertised product

paragraphs 0013 and 0014. Figure 1 offers a simple block diagram of the device, it includes memory 21, processor, or control unit, 20, and four input sensors that the device uses to detect if a potential customer is nearby. The rotating mechanism, or actuator unit, 40 rotates the display as information begins to appear on the screen of the display device. The rotating mechanism 40 is controlled by the processor 20, which gives the command to turn the display when information is ready to be displayed on the monitor. This is considered equivalent to the processor, or control unit, 20 controlling the rotating mechanism, or actuator unit, 40 depending upon the image information displayed on the monitor to control movement of the monitor paragraph 0039. Marmaropoulos doesn't describe that the control unit controls the actuator unit to dynamically synchronize movement of the monitor with the image information displayed on the monitor.

However, Minyard describes a device comprising a control unit and an actuator unit wherein the control unit controls the actuator unit to dynamically synchronize the movement of the monitor with the image information displayed on the screen. For example, Minyard describes a mammographic imaging system that allows for efficient review of recently captured digital images. Minyard describes that server 104, of Figure 1, or processors of the image review stations 110 may execute logic for image display optimization. The optimization includes optimally using the available display area for displaying the selected images based on whether the images are best suited for landscape, portrait, or some other orientation column 8 lines 49-61. Minyard further describes that a motor 410, of Figure 4, may be provided to automatically rotate the

monitor 402 to a desired orientation. The orientation of the monitor may be selected by processing logic to optimize monitor space utilization for a given layout of multiple images column 10 lines 42-67 and column 11 lines 1-13. The orientation of the monitor is automatically adjusted by the system based on the ideal layout of each image, which means in most cases the monitor will rotate between landscape and portrait orientations as images of either landscape or portrait format are presented on the display. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Marmaropoulos the dynamically adapting monitor based on the image information displayed on the screen, as taught by Minyard, in order to allow each advertisement presented to optimally fill as much of the screen space as possible. The advantage of optimally filling the screen space when presenting each advertisement is that consumers will be more interested in the information presented as each scene will be presented at the largest size possible and any presented text or other visual aids will not be missed simply because they are too small to easily view.

As to claim 2, Marmaropoulos includes a device wherein a control loop synchronizes the monitor movement caused by the actuator unit with the image information. For example, Marmaropoulos describes a software algorithm that may be used as a servo control loop. The algorithm uses position information to perform closed loop control of the rotor's position by detecting and correcting for the error in position versus a defined target position paragraph 0031.

Concerning claim 3, Marmaropoulos describes a device wherein the control loop is designed for dynamic synchronization of the monitor movement with the image

information such that the user can define a constant speed of this movement. For example, Marmaropoulos includes that the display device may be adapted to be rotated at predetermined speeds, such as, for example, 5-30 rpm paragraph 0029. Marmaropoulos doesn't describe that the user can also define the acceleration and deceleration of the monitor movement.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Marmaropoulos an acceleration and deceleration of the monitor movement that are proportional to the speed that the user chooses, which means that the user also defines the acceleration and deceleration of the monitor movement, based on the selected speed. The advantage of an acceleration and deceleration that are proportional to the speed of the monitor movement is that the monitor always has a smooth timely start when it begins rotating and a smooth timely stop when it finishes rotating. A very fast acceleration to a slow top speed gives the appearance that the monitor jerks to a start, and a very slow acceleration to a fast top speed means that the monitor might not reach its top speed by the time it's finished rotating.

With regard to claim 4, Marmaropoulos describes a device wherein the control loop provides for bi-directional data transmission between the monitor actuator unit and the control unit with continuous comparison of the actual value of the monitor movement with the target value of monitor movement. For example, Marmaropoulos includes a software algorithm contained within the computer, or control unit, that is used as a servo control loop. It receives information sent from the servomotor, or actuator unit,

regarding the actual position of the rotation and then sends information to the servomotor to correct for the error between the actual position of the error and the target position paragraph 0031. Marmaropoulos doesn't describe that the bi-directional data transmission between the monitor actuator unit and the control unit conducts a continuous comparison of the actual value of image information with the target value of monitor movement and the actual value of the monitor movement with the target value of the image information.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Marmaropoulos a bi-directional data transmission system that synchronizes the rotation of the monitor with the image information, rather than synchronizing the rotation of the monitor with a specified target angle of rotation based on the amount of time the monitor has been rotating. The advantage of comparing the actual value of image information with the target value of monitor movement and the actual value of the monitor movement with the target value of image information, as opposed to comparing the target value of monitor movement with the actual value of monitor movement, is that the rotation of the monitor will always be synchronized with the current frame within the sequence of images being displayed on the monitor. If the program skips a few frames while presenting the image information then the algorithm controlling the monitor movement will know to speed up the rotation to catch back up to the amount of rotation that corresponds to the current frame.

Regarding claim 6, Marmaropoulos discloses a device wherein the monitor actuator unit comprises a rotary actuator which rotates the monitor about a vertical axis.

For example, Marmaropoulos describes that the display device can rotate on one or more of its axes paragraph 0029. Figures 1 and 2 illustrate the monitor rotating on a vertical axis.

Concerning claim 8, Marmaropoulos includes a device wherein the actuator unit comprises a rotation transmitter which can transmit signals/data between the control unit and at least one of the monitor and a power supply. For example, Marmaropoulos describes the LCD monitor 31 of Figure 2 as being constructed using: a LCD display unit 32, a stand unit 33, and a stand-display interface 34. Further, he describes that the stand unit 33 includes a plurality of connectors for power and signal cables paragraph 0028. Figure 2 also labels the rotating mechanism, or actuator unit, 40 as the connection between the LCD display unit 32 and stand-display interface 34. As the rotating mechanism 40 is the only connection point between the LCD display unit 32 and the control unit, or computer, it is inherent that the rotating mechanism, or actuator unit, 40 comprises a rotation transmitter which can transmit signals/data between the control unit and the monitor.

With regard to claim 10, Marmaropoulos describes a device wherein the monitor is a matrix display. For example, Marmaropoulos discloses that the display device 30 of display system 10 (Figure 1) can be an LCD device, which is an active matrix display paragraph 0028.

As to claim 11, Marmaropoulos describes a device wherein the control unit comprises a computer, and the image information is stored in a memory unit of the computer. For example, Marmaropoulos discloses that the display system 10 includes

a processor 20 and a memory 21. He also discusses that the processor may be a computer, and that one or more software programs carry out the various functional operations of the display system 10. Each software program, and all associated image information, is stored in memory 21 paragraphs 0026 and 0027.

Concerning claim 12, Marmaropoulos discloses a device wherein a content player is implemented in the computer and supplied by the content of the memory unit, and plays back the image information for display on the monitor and movement data based upon timeline data stored in the memory unit of the computer to synchronize movement of the monitor with the image information being displayed on the monitor. For example, Marmaropoulos describes a display device that rotates 180° and then acts as a content player as it begins presenting image information on the screen. The image information is stored in memory unit 21 of Figure 1, and processor 20, which is considered a computer, implements the program by controlling the movement of the monitor and the presentation of information. The movement of the monitor is based upon timeline data stored in the memory to synchronize movement of the monitor with image information being displayed on the monitor. Specifically, the 180° rotation of the monitor is synchronized with the beginning of the display of image information on the monitor, which means the movement data controlling the rotation of the monitor is dependent upon the timeline data of the image information stored in memory paragraph 0039.

As to claim 13, Marmaropoulos describes a display device connected to a computer that has the functionality of displaying image content stored in memory and

simultaneously rotating the display 180° as the screen begins presenting information paragraphs 0013 and 0026. Marmaropoulos doesn't describe that a movement player is implemented in the computer and communicates bi-directionally with the output of a content player and a monitor actuator unit based upon a shared activation signal for the memory unit, content player, and movement player.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Marmaropoulos a movement player that communicates bi-directionally with the output of a content player and a monitor actuator unit and serves the purpose of ensuring that the output of the content player and the monitor actuator unit is synchronized. The advantage of such a movement player is that the display of image information on the monitor will never be behind or ahead of the rotation of the display device, which ensures that the rotation of the monitor will only enhance the presentation of information, rather than serve as a distraction.

Regarding claim 14, Marmaropoulos describes a device wherein sound information is incorporated into the control of the actuator unit. For example, Marmaropoulos describes that one of the four activation mechanisms to activate the display device is a voice recognition device 51. The voice recognition device 51 activates the display device and the display device responds by rotating 180° and presenting image information on its display screen paragraph 0037. The voice activation mechanism is considered sound information that is incorporated into the control of the actuator unit.

Concerning claim 15, Marmaropoulos discloses a device wherein the safety information includes a maximum speed value that is exchanged between the control unit and the actuator unit. For example, Marmaropoulos describes that the display device may be adapted to be rotated at predetermined speeds, anywhere from 5-30 rpm paragraph 0029. Marmaropoulos doesn't describe that the actuator unit is shut down if the maximum speed is exceeded.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Marmaropoulos an algorithm that shuts the actuator unit down if the monitor begins to rotate at speeds larger than 30 rpm. The advantage of including a safety shut off algorithm in the design of the rotating display device is that the device won't accidentally reach rotational speeds that could potentially harm anyone or anything in close proximity.

With regard to claim 16, Marmaropoulos in view of Minyard describes a device for audiovisual presentation of sound and images, particularly for advertising purposes, with a memory unit and a monitor to display image information from the memory unit, said device comprising: an actuator unit to move the monitor; and a control unit controlling said actuator unit, said control unit including a control loop synchronizing the monitor movement caused by said actuator unit with the image information, as described in the rejection of claims 1 and 2. Marmaropoulos further describes that the control loop provides for bi-directional data transmission between the monitor actuator unit and the control unit with a continuous comparison of the actual value of the monitor

movement with the target value of monitor movement, as described in the rejection of claim 4.

The rejection of claim 4 further describes that it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Marmaropoulos in view of Minyard a control loop that provides continuous comparison of the actual value of image information with the target value of the monitor movement and the actual value of monitor movement with the target value of the image information, as opposed to comparing the target value of monitor movement with the actual value of monitor movement, in order to ensure that the rotation of the monitor is always synchronized with the current frame within the sequence of images displayed on the monitor. If the program skips a few frames while presenting the image information then the algorithm controlling the monitor movement will know to speed up the rotation to catch back up to the amount of rotation that corresponds to the current frame.

As to claim 18, Marmaropoulos in view of Minyard describes a device for audiovisual presentation of sound and images, particularly for advertising purposes, with a memory unit and a monitor to display image information from the memory unit, said device comprising: an actuator unit to move the monitor; and a control unit controlling said actuator unit, said control unit including a control loop synchronizing the monitor movement caused by said actuator unit with the image information, as described in the rejection of claims 1 and 2. Marmaropoulos further describes that the control loop is designed such that a user can define a constant speed of this movement, as described in the rejection of claim 3.

The rejection of claim 3 further describes that it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Marmaropoulos in view of Minyard the added optional control that the user's choice of monitor rotation speed directly affects the acceleration and deceleration of the monitor's rotation, which means that the acceleration and deceleration are also defined by the user. The advantage of an acceleration and deceleration that are directly correlated with the speed of the monitor movement is that the monitor always has a smooth timely start when it begins rotating and a smooth timely stop when it finishes rotating. A very fast acceleration to a slow top speed gives the appearance that the monitor jerks to a start, and a very slow acceleration to a fast top speed means that the monitor might not reach its top speed by the time it's finished rotating.

Claims 5, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marmaropoulos (US 2003/0202003) in view of Minyard (US 6,891,920) and further in view of Badger (US 5,973,664).

Regarding claims 5, 17, and 19, Marmaropoulos describes a device wherein the control unit is designed so as to modify the image information read from the memory unit depending upon the monitor movement. For example, Marmaropoulos offers Figure 3, which illustrates a display device rotating on a horizontal axis. Depending on the monitor's movement into a particular orientation, the information displayed may have to be rotated 180° so as to appear right side up to the viewer. Marmaropoulos further describes that a software program may perform a simulated rotation of the display device viewing area, which gives the appearance of the viewing area flipping

over or rotating paragraph 0036. Marmaropoulos doesn't describe that the modification of the image consists of splitting and reassembling the image information being displayed on the monitor.

However, Badger describes rotating an image by means of splitting the image into a set of image lines, storing each image line into memory, and then reassembling the image from memory with a new orientation column 2 lines 5-41. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Marmaropoulos the method of splitting an image into lines and then reassembling the image with a new orientation as taught by Badger in order to utilize a well-known and proven method of rotating image information to compensate for the new orientation of the monitor.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marmaropoulos (US 2003/0202003) in view of Minyard (US 6,891,920) and further in view of Ichimura (US 6,801,426).

As to claim 7, Marmaropoulos describes a device wherein the rotary actuator allows for unrestricted rotation of the monitor. For example, Marmaropoulos describes that the device rotates 180° when it begins presenting information on the display, and it rotates 180° when the display becomes inactive paragraphs 0039 and 0042. Figures 1, 2, and 3 also illustrate the unrestricted rotation of the monitor. Marmaropoulos doesn't describe that the rotary actuator comprises a low-friction pivot bearing.

However, Ichimura describes a monitor that is able to rotate along horizontal and vertical axes and uses at least one low-friction member, or pivot bearing, disposed

between the monitor stand and the bracket that holds the monitor in place column 2 lines 10-28 and Figure 5. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Marmaropoulos the low-friction pivot bearing as taught by Ichimura in order to easily transmit the load of the rotating monitor onto the monitor stand without placing any unnecessary strain on the rotary actuator.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marmaropoulos (US 2003/0202003) in view of Minyard (US 6,891,920) and further in view of Matthews et al. (US 2002/0109665).

With regard to claim 9, Marmaropoulos includes a device wherein signal/data transmission exists between the monitor and the control unit. For example, processor 20 of Figure 1, which is considered a control unit, accesses image information in memory 21 and then displays this information on monitor 30. Marmaropoulos doesn't describe that the signal/data transmission between the control unit and the monitor is contactless.

However, Matthews describes a device where the monitor and control unit transmit signal/data information back and forth using a contactless connection paragraph 0006 and Figure 1. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Marmaropoulos the contactless connection between the monitor and control unit as taught by Matthews in order to create a wireless rotating display device that isn't restricted in movement or location by signal cables that run from the monitor to the control unit.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bowron (US 2002/0126110) describes an adjustable flip screen display system, Solomon et al. (US 2003/0222848) describes a system of switching the viewing orientation of a display, Yu (US 5,250,888) describes an apparatus for rotating a display, and Hunt et al. (US 2004/0039862) describes a system automatically switching among multiple display configurations based on system events.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Washburn whose telephone number is (571) 272-

5551. The examiner can normally be reached on Monday through Friday 8:30 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DW

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ULKA CHAUHAN
SUPERVISORY PATENT EXAMINER